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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,874	03/19/2004	David E. Wang	030499	7654

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QUALCOMM INCORPORATED  
5775 MOREHOUSE DR.  
SAN DIEGO, CA 92121

EXAMINER
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YUN, EUGENE

ART UNIT	PAPER NUMBER
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2618

NOTIFICATION DATE	DELIVERY MODE
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02/19/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/804,874	<b>Applicant(s)</b> WANG ET AL.	
	<b>Examiner</b> EUGENE YUN	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh (US 6,085,103) and Niemela (US 2004/0248519) and further in view of Marchetto et al. (US 5,414,734).

Referring to Claim 1, Ramesh teaches a method of testing wireless subscriber stations, comprising:

Generating a broadcast signal (see col. 3, lines 21-25 noting that the AM signal is the broadcast signal).

Ramesh does not teach digitally creating in a digital processor a plurality of independently faded signals from the broadcast signal.

Niemela teaches digitally creating in a digital processor a plurality of independently faded signals from the broadcast signal (see paragraph [0059]);

Selectively creating, in the digital processor, a plurality of Doppler frequency shifted signals from the plurality of independently faded signals to generate a plurality of independently faded, selectively Doppler shifted signals (see paragraph [0062]); and

transmitting the plurality of digitally created, independently faded, selectively Doppler shifted signals from a transmitter to the wireless subscriber station under test

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(see paragraph [0062]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Niemela to said method of Ramesh in order to improve the overall efficiency of the network.

The combination of Ramesh and Niemela does not teach transmitting the signals to a plurality of wireless subscriber stations. Marchetto teaches transmitting the signals to a plurality of wireless subscriber stations (see col. 7, lines 3-13 and 68 and 70 of fig. 3 where the signals 68 and 70 go to two different subscriber stations). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Marchetto to the modified method of Ramesh and Niemela in order to enable the use of higher data rates.

Claim 13 has similar limitations as claim 1.

Referring to Claim 2, Niemela also teaches monitoring each of the subscriber stations under test to determine whether it can recover the broadcast signal from the plurality of independently faded selectively Doppler shifted signals (see paragraph [0062]).

Referring to Claims 3 and 14, Ramesh also teaches receiving a signal from each of the wireless subscriber stations under test, digitally creating at least one independently faded signal from each of the received signals, and generating a second broadcast signal for the wireless subscriber stations under test based on said at least one independently faded signal created from each of the received signals (see col. 6, lines 17-21).

Referring to Claims 4 and 16, Ramesh also teaches converting each of the digitally created faded signals to an analog faded signal at a carrier frequency (see col. 4, lines 3-10). Niemela teaches providing the faded, selectively Doppler shifted signals to their respective subscriber stations (see paragraph [0062]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Niemela to said device of Ramesh in order to enable the use of higher data rates.

Referring to Claims 5 and 17, Marchetto also teaches the plurality of independently faded signals including a first faded signal and a second faded signal, the first faded signal having a different fading model than the second faded signal (see col. 7, lines 3-13).

Referring to Claim 6, Marchetto also teaches each of the plurality of independently faded signals digitally created by generating multiple copies of the broadcast signal, independently scaling each of the multiple copies as a function of one or more parameters relating to a fading model, and combining the result (see col. 7, lines 49-67).

Referring to Claim 7, Marchetto also teaches applying a doppler frequency shift to each of the multiple copies (see col. 4, lines 18-20).

Referring to Claim 8, Marchetto also teaches applying a delay to each of the multiple copies (see col. 7, lines 40-48).

Referring to Claim 9, Ramesh also teaches the broadcast signal comprising video (see col. 3, lines 23-24).

Referring to Claims 10 and 23, Marchetto also teaches the broadcast signal comprising a spread spectrum signal (see col. 9, lines 27-47).

Referring to Claim 11, Marchetto also teaches monitoring a digital communications signal from each of the subscriber stations under test (see col. 5, lines 57-63).

Referring to Claims 12 and 24, Marchetto also teaches the digital communications signal from each of the subscriber stations under test monitored by digitally creating two independently faded signals from each of the subscriber stations (see col. 7, lines 3-13), combining a first one of the two independently faded signals from each of the subscriber stations under test, combining a second one of the two independently faded signals from each of the subscriber stations under test (see col. 7, lines 13-16), and attempting to recover the digital communications signal from each of the subscriber stations under test from the first and second ones of the combined independently faded signals (see col. 7, lines 16-21).

Referring to Claim 15, Marchetto also teaches a plurality of subscriber station test connections (see col. 7, lines 16-21).

Referring to Claim 18, Marchetto also teaches a plurality of processing units each being configured to generate one of the faded signals (see col. 7, lines 16-21).

Referring to Claim 19, Marchetto also teaches a plurality of processing elements each being configured to independently scale the broadcast signal as a function of one or more parameters relating to a fading model, and a combiner configured to combine the independently scaled broadcast signals (see col. 7, lines 49-67).

Referring to Claim 20, Marchetto also teaches applying a doppler frequency shift to the broadcast signal (see col. 4, lines 18-20).

Referring to Claim 21, Marchetto also teaches applying a delay to the broadcast signal (see col. 7, lines 40-48).

Referring to Claim 22, Ramesh also teaches the broadcast signal comprising video (see col. 3, lines 23-24).

Claims 25-36 have similar limitations as claims 1-12.

Claims 37-48 have similar limitations as claims 1-12.

Referring to Claim 49, Ramesh teaches a method for testing wireless subscriber stations, the method comprising:

generating a broadcast signal (see col. 3, lines 21-25 noting that the AM signal is the broadcast signal).

Ramesh does not teach a base station simulator separate from the wireless subscriber stations;

digitally creating in a digital processor separate from the wireless subscriber stations a plurality of independently faded signals from the broadcast signal; and

transmitting the digitally created, independently faded signals from one or more transmitters associated with the digital processor to one or more of the wireless subscriber stations.

Niemela teaches a base station simulator (see 142 and 144 of fig.1) separate from the wireless subscriber station (see fig. 4);

digitally creating in a digital processor separate from the wireless subscriber stations a plurality of independently faded and selectively Doppler shifted signals from the broadcast signal (see paragraph [0059]); and

transmitting the digitally created, independently faded and selectively Doppler shifted signals from one or more transmitters associated with the digital processor to one or more of the wireless subscriber stations (see paragraph [0062]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Niemela to said method of Ramesh in order to improve the overall efficiency of the network.

The combination of Ramesh and Niemela does not teach the use of a plurality of wireless subscriber stations. Marchetto teaches the use of a plurality of wireless subscriber stations (see col. 7, lines 3-13 and 68 and 70 of fig. 3 where the signals 68 and 70 go to two different subscriber stations). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of Marchetto to the modified method of Ramesh and Niemela in order to enable the use of higher data rates.

Claim 50 has similar limitations as claim 49.

Referring to Claim 51, Niemela also teaches transmitting a first of the plurality of digitally created, independently faded, selectively doppler shifted signals to a first antenna port of a first wireless subscriber station under test; and transmitting a second of the plurality of digitally created, independently faded, selectively doppler shifted signals to a second antenna port of a first wireless subscriber station under test,



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wherein the second antenna port is spatially diverse from the first antenna port (see paragraph [0062]).

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-51 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUGENE YUN whose telephone number is (571)272-7860. The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571)272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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